

# PATENT ABSTRACTS OF JAPAN

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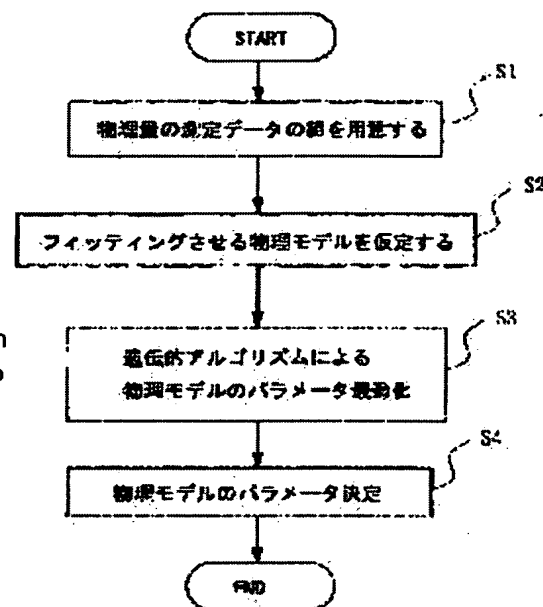
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## (54) OPTIMUM FITTING PARAMETER DETERMINATION METHOD AND DEVICE THEREFOR, AND OPTIMUM FITTING PARAMETER DETERMINATION PROGRAM

(57)Abstract:

**PROBLEM TO BE SOLVED:** To effectively optimize the fitting parameter of a physical model in a short calculation time without depending on an initial value or without sticking to a local peak.

**SOLUTION:** The parameter of the physical model is expressed with a real number vector as chromosomal information in genetic algorithm, a plurality of individuals expressed by the chromosomes are prepared, and measurement data points of a physical quantity are fitting-optimized by the genetic algorithm. Child individuals of a crossing-over process of the genetic algorithm are generated according to normal distribution probability decided from three parent individuals. In a substitution process, an individual excellent in all standards is set to an individual of a next generation group among the selected parent individuals and the plurality of child individuals. The optimum fitting parameter is found in each combination of measurement data points in a plurality of experimental conditions, and the measurement data points are fitted such that the fitting parameters smoothly change among the experimental conditions. Thereby, a physical phenomenon can be simulated with the physical model without an error even in the experimental conditions under which experimentation is not executed.



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